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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,577	08/25/2003	Namit Jain	50277-2236	4090

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EXAMINER	
RADTKE, MARK A	

ART UNIT	PAPER NUMBER
2165	

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/648,577	JAIN ET AL.	
	Examiner	Art Unit	
	Mark A. X Radtke	2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20060822*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Remarks

1. In response to communications filed on 21 July 2006, claim(s) 4-5 and 8-16 is/are amended, and new claim(s) 17-20 is/are added per Applicant's request. Therefore, claims 1-20 are presently pending in the application, of which, claim(s) 1 is/are presented in independent form.

2. In response to Applicant's arguments, the rejections under 35 U.S.C. 112, second paragraph, have been withdrawn. In response to Applicant's amendments, the rejections under 35 U.S.C. 101 have been withdrawn. Examiner notes that "computer-readable storage medium" is not defined in the specification, so it will be interpreted using the well-known meaning in the art. In response to the terminal disclaimer filed 21 July 2006, the nonstatutory double patenting rejection has been withdrawn.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5-11 and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Skinner et al. (U.S. Patent 6,085,198).

As to claim 1, Skinner et al. teaches a method of storing data into a database (see Abstract), the method comprising:

a loader application receiving data (see figure 3, Comm Mgmt 305B and figure 4, step 400 and column 16, lines 48-49);

determining one or more routines that are associated with a type of said data, wherein said one or more routines are implemented by a program that is external to both said loader application and a database server that manages said database (see column 16, lines 49-55, where "routines" is read on "methods");

invoking said one or more routines (see column 18, lines 6-10);

in response to said one or more routines being invoked, said program performing steps comprising:

creating a data structure that has one or more elements that correspond to one or more attributes of said type (see column 16, lines 60-62 and figure 4, step 404); and

populating said one or more elements with one or more values that are specified in said data, wherein said one or more values correspond to said one or more attributes (see column 30, lines 60-67);

generating, based on said data structure, a data stream that conforms to a format of data blocks of said database (see column 31, lines 1-2); and

writing said data into one or more data blocks in said database (see column 31, lines 23-33).

As to claim 2, Skinner et al. teaches wherein a number of attributes of said type is not defined to said loader application (See column 17, line 65 – column 18, line 5. Attributes can be determined by calling functions instead of loading documents).

As to claim 3, Skinner et al. teaches wherein a type of an attribute of said type of said data is not defined to said loader application (See column 17, line 65 – column 18, line 5. Attributes can be determined by calling functions instead of loading documents).

As to claim 5, Skinner et al. teaches wherein said data structure is created by said program in a memory space of said loader application rather than a memory space of said program (see column 2, lines 45-47, "client tier and application tier which permit instantiation of the generated data classes").

As to claim 6, Skinner et al. teaches wherein said determining comprises locating addresses of one or more routines that are in a same entry of a table as an identity of said type (see column 16, line 40, "associated data types").

As to claim 7, Skinner et al. teaches further comprising:

adding, to a table, an entry that indicates an association between said type and said one or more routines (see column 19, lines 66-67 and column 20 lines 15-19).

As to claim 8, Skinner et al. teaches wherein said invoking comprises invoking one or more routines that are located at one or more addresses that are associated with said type via an associative structure (see column 18, lines 6-10).

As to claims 9-11, 13-16 and 19-20, Skinner et al. teaches a computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the methods recited in claims 1-8 (see column 5, lines 50-57).

As to claim 17, Skinner et al. teaches further comprising:

said program registering, with said loader application, said one or more routines, which are not implemented by said loader application (See columns 32-35, "Reflection Methods" and see also column 24, lines 12-45. Routines not implemented by the loader application are routines of opaque types, as defined in paragraph [0021] of the instant specification. Reflection methods allow the discovery of the internal structure of objects, even when the structure is hidden by encapsulation. As defined in the specification, and as used in the claims, opaque types are indistinguishable from JavaBeans or other objects defined by an interface. Skinner et al. teaches this registration and discovery for

any type of object. See "Using Java Reflection" and "Java programming dynamics, Part 2: Introducing reflection" for well-known uses of reflection to "look into" objects.); and

in response to said program registering said one or more routines with said loader application, said loader application adding, to a dispatch table, an entry that indicates an association between said one or more routines and an opaque type implemented by said program (see Examiner's comments regarding claims 7-8).

As to claim 18, Skinner et al. teaches wherein invoking said one or more routines comprises:

said loader application invoking at least one of said one or more routines to find out (a) a number of one or more attributes within an opaque type and (b) one or more types of said one of more attributes within said opaque types (see column 19, lines 14-17 and column 20, line 50 – column 21, line 19); and

said loader application invoking at least one of said one or more routines to populate, with values of instances of the opaque type, elements of an array that is stored in a memory space of said loader application (see column 18, lines 30-40 and see also column 19, lines 39-50, "MetaSchema").

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Skinner et al. as applied to claim 1 above, and further in view of O'Reilly (Chapter 10, section 10.1 of "Oracle SQL*Loader: The Definitive Guide").

As to claim 4, Skinner et al. teaches wherein said creating, said populating, said generating, and said writing are performed without causing a Structured Query Language (SQL) engine to load said data (see column 18, lines 8-12 where "without causing a SQL engine to load said data" is read on "extracted and loaded directly").

Skinner et al. does not explicitly teach using a direct path loading approach rather than a conventional path loading approach.

O'Reilly teaches using a direct path loading approach rather than a conventional path loading approach (see Chapter 10, Title).

Therefore, it would have been obvious to one of ordinary skill in the relevant art at the time the invention was made to have modified Skinner et al. by the teaching of O'Reilly because "the schema metadata may be [...] loaded directly" (Skinner et al., column 18, lines 9-10).

As to claim 12, Skinner et al., as modified, teaches a computer-readable storage medium carrying one or more sequences of instructions which, when executed by one

or more processors, causes the one or more processors to perform the methods recited in claims 1-8 (see column 5, lines 50-57).

Response to Arguments

7. Applicant's arguments filed on 21 July 2006 with respect to the rejected claims in view of the cited references have been fully considered but are not deemed persuasive.

In response to Applicant's arguments that "Skinner fails to teach, disclose, or suggest "generating ... a data stream that conforms to a format of data blocks of said database", the arguments have been fully considered but are not deemed persuasive. Skinner et al. teaches writing to a database (see column 8, lines 49-50, "into the format of database server"). Writing to a database inherently requires generating a data stream that conforms to the database's format. If a database did not generate a data stream in its proper format, it would be unable to read the data, and thus would be inoperative. Furthermore, column 18, line 10 discloses an embodiment where "schema metadata may be [...] loaded directly into the desired data structures". One of ordinary skill in the art would interpret "loaded directly" to mean "direct path loading". Examiner notes that direct path loading is not required by claim 1.

In response to Applicant's arguments that it "is grossly inconsistent for the Office Action to also take the position that Skinner, allegedly in the prior art, actually **does**

disclose such an association" (emph. in orig.), the arguments have been fully considered but are not deemed persuasive. In the interest of expediting prosecution, Examiner interpreted the indefinite language as best understood in light of the specification. Examiner stated this interpretation along with the reasons for rejection under 35 U.S.C. 112, second paragraph. Applicant's arguments have persuaded Examiner to withdraw the rejection under 35 U.S.C. 112, second paragraph. Examiner asserts that the interpretation was reasonable and that Skinner et al. still teaches data type/address association using a table. Skinner et al. deals exclusively with database object serialization, and reconstructing an object requires a Factory pattern that attaches methods. This object value/method information is stored in a table (see Abstract, lines 1-2 and figure 2). See figure 6B, step 613 and see columns 28-29, "Specified Methods". Specifically, "those methods described by the MetaMethod elements of the Vectors 'myMethods' [...] are added to the common interface" (column 28, lines 41-42). Also, in lines 28-30 of column 21, Skinner et al. discloses, "A reference, 'myPassToAttribute,' refers to the MetaAttribute instance describing an attribute to forward the method call to, if applicable." A reference is an address. Thus, Skinner et al. teaches locating addresses of methods for a given type.

In response to Applicant's arguments that Skinner et al. "does not disclose, teach, or suggest that one or more **addresses** of one or more **routines** are **associated with** a data type **via an associative structure**" (emph. in orig.), the arguments have been fully considered but are not deemed persuasive. A database table is an

associative structure. A Vector of references is an associative structure. See Examiner's comments in the previous paragraph.

Additional References

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following non-patent literature is cited to further show the state of art with respect to object serialization in general:

"Using Java Reflection" by Glen McCluskey, January 1998.
"Java programming dynamics, Part 2: Introducing reflection" by Dennis Sosnoski, 3 June 2003.
"Chapter 10. Direct Path Loads" and "What is the Direct Path?" published by O'Reilly and Associates, 2001.
"Objects, Collections, and OPAQUE Types" from Oracle9i SQLJ Developer's Guide and Reference Release 2 (9.2).Copyright 1999, 2002. Available online at http://www.lc.leidenuniv.nl/awcourse/oracle/java.920/a96655/objcoll.htm

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications should be directed to the examiner, Mark A. Radtke. The examiner's telephone number is (571) 272-7163, and the examiner can normally be reached between 9 AM and 5 PM, Monday through Friday.

If attempts to contact the examiner are unsuccessful, the examiner's supervisor, Jeffrey Gaffin, can be reached at (571) 272-4146.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service at (800) 786-9199.

maxr
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23 October 2006

Apu Mofiz
Primary Examiner
TC 2100